The Computerworld Honors Program

CASE STUDY

ORGANIZATION:

Erie County, New York

PROJECT NAME:

Erie County

LOCATION:
Buffalo, New York, United States

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Government and Non-Profit Organizations

NOMINATING COMPANY:
IBM Corporation

Summary

Erie County, located in the westernmost part of New York State, is in the sixth year of an eight-year project to rebuild its technical infrastructure. The objectives are to use technology at the local government level to link multiple county government agencies to each other; to provide a robust integration with the New York State agencies that provide vital functionality; to integrate over 25 local governments to present one government portal to clients and constituents; and to reduce the cost of government technology infrastructures in the region.

Introductory Overview

In late 1999, an independent private sector team performed an evaluation of Erie County government to gauge its effectiveness. Among other findings it found "an absence of efficiently delivered service, incompatibility between systems and a lack of information integration, all of which lead to inefficiency in the operation of county government". In addition to this finding, the consequences of NYS being a home rule state has resulted in almost 30 cities, towns and villages managing their own technical infrastructures all within Erie County. This is what the new county Administration found in 2000: a disorganized, tangled IT environment supporting 5 email systems, multiple networks within the same county office building, distributed control over technology purchases leading to significant incompatibilities, multiple data centers, sub-standard equipment, etc. Notwithstanding the daily and intimate interaction between the State of New York and the County on human services and criminal matters, barriers between systems were institutionalized. Given this environment, the total cost of delivering services to clients was expensive, citizen interaction with local government was confusing, and attempts to use technology to advance modern client and citizen functionality were disorganized and unsuccessful.

To solve these problems a critical analysis of the existing Erie County technical environment revealed that an enterprise approach was the best way forward. Erie County leadership decided that an enterprise shared service technical infrastructure needs to be implemented and utilized by all governments in Western New York. Given the political realities of the region with over 400 elected officials, resistance to this approach was and still is formidable. But this shared technical infrastructure is viewed by some local leaders as a necessary component for effective

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service delivery and vital as a success factor to the region's economic development.

Implementing this vision started with sharing services within Erie County government itself. Erie County is the largest local government with over 7,000 employees. Its annual budget is over one billion dollars, mostly for administering federal and state programs for the one million residents of Erie County. County government is organized into about 40 departments with other affiliated entities, including a hospital, a college, a 40-branch library system, and independently-elected officials with responsibility for fiscal oversight, public safety, criminal prosecution and regional records management for all levels of courts.

Erie County government was the test case with the objective of all county departments and agencies sharing a common infrastructure. This has been achieved. The shared infrastructure services implemented for Erie County government have proven their worth and now are being considered for cities, towns and villages. This was not easy. It took us five years to achieve this milestone.

In late 2000, Erie County's Commissioner for Information and Support Services formed a governance body composed of the CIO's from Erie County, City of Buffalo, Buffalo and Erie County Library, Erie Community College, Erie County Medical Center, Erie County Social Services and Central Police Services. This body agreed to the goals and principles and to a high level architecture upon which Erie County would rebuild its technical infrastructure. The group also published a formal "Information Technology Strategy; Goals and Principles" document. The vision was to reengineer Erie County government's technical infrastructure to facilitate the integration of service delivery processes across functional domains and to create single, easy-to-use portals for clients and staff to access integrated product/service suites. This was a significant change in direction for Erie County government because up to that point most departments and agencies were responsible for their own niche technology. This change in direction was delivered to over 300 county technical workers and business service managers in an auditorium setting in early 2001.

For the next 5 years, 2001 – 2005, Erie County government designed and implemented a shared service technical infrastructure. This large effort was divided into five infrastructure layers: workstations, networks, server/mainframe, storage/backup and applications/ERP. A project team was created for each of the five layers and all worked in close collaboration with each other. The following are the highlights of what was implemented:

-A standard, locked-down workstation has been implemented for over 2,000 county workers. On that workstation is a centrally managed set of office products, virus controls and version controls all supported by an enterprise help desk.

-An enterprise email system supporting over 3,000 employees has replaced five departmental email systems.

-Multiple networks have been consolidated into one secure internet protocol network that functions within an actively managed security system. City, Town and Village use of county enterprise services is provided by access to the enterprise network.

-Multiple network directory services have been replaced with one active directory.

-Over 100 departmental servers have been moved and consolidated into the Erie County data center and are centrally managed.

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-Over 14 terabytes of enterprise storage has been implemented to house the data for all servers, applications and workstations.

-All infrastructure components participate in an enterprise data backup system.

-The enterprise resource planning system (ERP) has been replaced by a tier 1 system from SAP. Human resources, payroll, benefits, procurement, accounting, grants, capital and budget were implemented in a big-bang implementation on May 1st, 2004.

-A new facility called the Public Safety Campus has been constructed to house police and emergency functions. The vision is to provide central 911 services (now distributed), central training, shared forensics laboratories, and other shared public safety functions. This vision will be implemented in 2006 with the integration of 26 police service answering points (PSAPs), each administered by a non-County agency, into one administered by the County.

-An effort is underway to implement the vision of a Western New York Community owned dark fiber network. This is collaboration among Erie County, The State university of New York at Buffalo, the City of Buffalo, NYS Department of Transportation, and others to implement a network capable of handling advanced video and internet2 applications.

-The most critical component of a technical infrastructure was, and is, the technical staff. Most of the technology was new to the county which required new skills, the creation of new jobs, expert project management skills, etc.

The remaining two years of the eight-year plan, 2006 – 2007, will be equally as aggressive. Currently under development is the business process redesign for two of the largest functions in Erie County government, Social Services and Plant Management to service the Sewers, Public Works, Parks, and Fleet departments. Together, these processes account for about 75% of the operation of county government. Using the infrastructure already implemented which includes ERP, the goals are:

-In Social Services: The current service delivery operation is organized around 25 sets of unique clients and services. This is being reengineered to an Enterprise Case Management system that provides common intake, notifications, eligibility determination, account management and service provider management.

-In Plant Management: There are four county departments (Sewers, Public Works, Parks and Fleet) that perform similar business processes for preventative maintenance, asset management, work orders, resource scheduling, parts warehousing, etc. Erie County is developing a common set of shared business processes that will be shared by all departments.

Benefits

The benefits can be categorized as follows: infrastructure total cost of ownership; Erie County government business process improvements; and benefits to other local governments.

Total Cost of Ownership:

-In 2000, the Erie County central IT department managed about 25% of the enterprise technology. Today almost 80% of the technical resources and operating budget are directly managed by the central IT department. As of year end 2004, total IT human resources were reduced by 18 FTEs or 10%.

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-For the period 2003 - 2007, $6.7 million is expected to be saved by implementing the centrally controlled workstation. This is attributable to the creation of a central help desk eliminating multiple department help desk functions, central control of workstation purchases factoring an enterprise replacement program, reductions in the break/fix expense, centrally controlled upgrades, centrally controlled virus protection, etc.

-Multiple LAN/WAN networks have been consolidated into an enterprise network. User departmental support for standalone networks has been eliminated, physical wiring expense for the main Erie County office building has been reduced, the entire enterprise network is now protected by a professionally managed commercial strength security environment, and one directory service manages access.

-Over 150 standard servers are managed, monitored and controlled by enterprise management tools.

-The administration of five departmental email systems has been eliminated in favor of one enterprise system used by all county departments.

-The technical and user support for six legacy administrative systems has been replaced with the central technical and user support of an ERP system.

-Business Process Improvements:

-An analysis of process savings performed 60 days post ERP implementation reveals $3 to $4 million of reduced annual expense. The savings were realized in the areas of payroll, human resource management, automation of the procurement process, converting to a cost center method of fund accounting, grant management, budget control and monitoring, etc.

-All departments can now freely exchange documents, spreadsheets, share files, participate in calendar functions and more due to the implementation of a standard, commercial strength office automation function.

-Personnel policies and procedures, events, “how to” instructions and the like are now stored and accessed on a robust intranet function.

-Remote worker access to the enterprise is now possible in a completely secure environment.

Benefits to Other Local Governments:

-There are 20 unique Erie County infrastructure services that could be shared with other local governments. Among them are email, tax processing and assessment, office automation, workstation management, help desk support, employee benefits administration, procurement processing, etc.

-So far, 12 of the 25 Town governments in Erie County access the internet through the Erie County technical infrastructure.

-One Town uses the Erie County email system.

-Serious discussions with the City of Buffalo are occurring now. Erie County’s infrastructure components including ERP are being considered by the City of Buffalo to be used in a managed service arrangement.

-The PSAP integration will accrue benefits in 2006. The quality of the 911 environment will improve which directly benefits the citizens and the cost of this service for the region will de-

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crease.

-The design and support for modern technology requires talented human resources. Erie County has this asset in place and stands ready to leverage this for the benefit of the region.

The Importance of Technology

For Erie County government, technology has been the key factor in achieving the management goal of departmental coordination and collaboration. Of course, implementing an enterprise set of tools helps and it does reduce expense. But the philosophy of treating technology as a shared utility has a greater strategic benefit:

-No longer do department managers have to manage technology assets.

-No longer do departments have to hire, train and motivate technology workers.

-No longer do departments have to fund technology from limited budgets.

-No longer do departments have to implement niche applications to support ERP.

All of these services are provided through the central management of the enterprise technology infrastructure. Now that all departments have the tools and more time they can better manage client services and relationships in a multi-department environment.

We seek to apply the experience of Erie County government to the Cities, Towns and Villages of Erie County. The operation of a regional technical infrastructure that is shared by all local governments is the vision. Technology may be the one discipline that can cause a unified multi-government focus on clients, citizens, physical infrastructure, administration, emergency services, etc.

Originality

The view of local government as an enterprise which owns the client, the citizen and government services is a perspective, we believe, that is new to local government, especially in New York State. Implementing a services oriented infrastructure in support of the local government enterprise is rare.

In New York State, it has been the practice that State agencies have implemented vertical applications in support of their clients and services. In some instances, agencies have even implemented infrastructure components like workstations, networks and security that must be used by local workers. This was the case in Erie County, especially in Social Services, which is the local administrator of State services. The problem is that the sum of all State agency client and service processing does not equal the totality of all the services that are managed at the local level. Erie County takes the perspective that it is the front line organization that supports all legislated services and that a local technical infrastructure must support this environment.

Another barrier to the creation of a shared local technology infrastructure is the result of home rule. The major cities and towns in Erie County have all implemented their own technology in support of their clients and services. One example is roads. The state, the county, three cities, 25 towns and 16 villages all maintain roads with all the related responsibilities. To varying degrees they all operate their own scheduling, repair, tracking, communication, maintenance and

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warehousing supported by their own technical infrastructures paid for by local taxes.

The architecture of the Erie County technical infrastructure offers an alternative. However it begs for a paradigm shift in how large state agencies deliver client and service business processes and how cities and towns utilize technology.

We have built a model infrastructure that makes integration possible, but we cannot command integration. Offering this as an alternative for the community is the true value of the Erie County project. Very few technology projects have the potential to be a catalyst for such a dramatic change in how government services are delivered at the local level.

Success

At a critical point in the project life cycle, one month post the ERP implementation on May 1st 2004, Jim Dillon, CIO for New York State, said in the Buffalo News that he didn't know of any other municipality in the state that is as far ahead of the technology curve as Erie County.

In 2005, Erie County was featured in a Strategic Guide from the Center for Digital Government, "Going Beyond ERP, A Roadmap for Transforming Government Enterprises".

In the August 2005 issue of The New York State Enterprise journal, Erie County was featured in an article, "Erie County Streamlines Technology Operations". This was reprinted in the Government Technology magazine on September 07, 2005.

Difficulty

Managing the technology and project management risk for a project this size is, of course, daunting. However, being a government adds even more complexity to this effort:

-County governance and leadership: 15 Erie County legislators are elected every 2 years, County Executive every 4, Comptroller every 4, Sheriff every 4, County Clerk every 4, District Attorney every 4. This is a challenge when the project is 8 years long.

-Funding: Continuity and long-range planning are critical. The County Administration has provided this multi-year support through capital bonding. However, independently elected legislators chose in 2005 to radically alter this plan. The financial planning horizon for local governments is, in reality, one year. Sustaining a multi-year capital stream requires extraordinary leadership. We believe that we have restored consensus but we must navigate two additional budget cycles.

-Change management: With a project of this scope, thousands of employees were involved over a long period of time. The magnitude of this risk deserves its own case study.